

MISCELLANEOUS NOTES

1. A PRELIMINARY NOTE ON THE SURVIVAL STATUS OF HANUMAN LANGUR (*PRESBYTIS ENTELLUS*) IN SOME VILLAGES OF NADIA DISTRICT, WEST BENGAL

INTRODUCTION

The Hanuman Langur (*Presbytis entellus*) is distributed from Kashmir to Kerala and from Kathiawar to Assam. Sixteen subspecies are recognised (Pocock 1931, Ellerman and Morrison-Scott 1951 and Napier and Napier 1967), of which fourteen are found in India. From its habitation in various geographical areas of India, it appears that *P. entellus* is the most highly adaptive primate species among the monkeys of the Cercopithecidae family. Vogel (1977) has rightly mentioned that *P. entellus* occupies a broader spectrum of habitats than other macaques. The distribution and abundance of *P. entellus* is not well investigated in West Bengal. Oppenheimer (1973) made a study on village dwelling langurs in West Bengal (Proceedings of the Indian Science Congress Association (Abstract)). Surveys of villages in Hooghly, Howrah and Purulia districts of West Bengal during 1972-1973 revealed the presence of *P. entellus* (Oppenheimer, Akonda and Hussain 1983). The distribution of *P. entellus* is probably widespread in West Bengal; one of the authors (A.B.) has observed it in the districts of Murshidabad, Birbhum, Burdwan, Hooghly, Howrah, Midnapur and 24-Parganas. We initiated a survey of *P. entellus* in the state of West Bengal in respect of its distribution and abundance. The present communication is a part of the project related to the field work in Nadia, a southern district of West Bengal. Interestingly, we had first taken up this particular district as one of us (B.R.) is a resident of one of the villages where the field work was conducted. According to B.R. *P. entellus* has existed in villages for many years; his grandfather used to see these animals during his childhood. He is of the opinion that the number of these village dwelling *P. entellus* is gradually decreasing. This personal observation by B.R. kindled our interest to investigate the reasons for this gradual decrease in numbers..

MATERIALS AND METHODS

Our area of field work consisted of four villages, Gotepara, Nutan Gotepara, Mirzapur and Nakashipara in the district of Nadia, West Bengal, 140 km. from the city of Calcutta and 5 km from Bethuadahari railway station on the Sealdah-Lalgola line. The villages are situated at 88.2° E longitude and 23.80° N latitude. National Highway 34 passes only 7 km away to the north-east of the villages. The villages are, surrounded by paddy fields, and each village has many gardens with mango, banana, jackfruit, coconut trees etc. Some well-to-do villagers of Nutan Gotepara and Mirzapur possess very big gardens with the above-mentioned trees. Moreover, tall trees of *Ficus religiosa* and *Ficus bengalensis* are found in all the villages.

This communication is based on intensive collection of field data over 84 hours (approx.) of direct observation on free living *P. entellus* in these villages from 9 to 15 June 1987. On an average, 12 hours observation per day, from 0600 to 1800 hrs., was made by both of us on the monkeys once they were located in the villages.

RESULTS AND DISCUSSION

The size and composition of the groups identified by us independently after repeated verification are shown in Table 1.

The monkeys found in the villages Nutan Gotepara, Mirzapur and Nakashipara; Gotepara and Nutan Gotepara were termed as Group A, B and C respectively. Group A, a unimale bisexual group, consisted of 32 individuals and was the largest. Group B, a unimale bisexual group, consisted of 11 individuals and Group C, an all male group of 6 individuals. With an alpha male in Group A, all adult females except one were seen to have infants varying in age from 10 to 30 days (approx.). Group B, which is

TABLE 1
SIZE AND COMPOSITION OF GROUPS INHABITING VILLAGES

Group	Location	Adult males	Adult females	Juveniles	Infants	Total
A	Nutan Gotepara, Mirzapur and Nakashipara	1	14	4	13	32
B	Gotepara	1	7	1	2	11
C	Nutan Gotepara	6	-	-	-	6

smaller than A had an alpha male and only two females with infants. Interestingly, Group C was an all male group and the individual members were adult and strong. The villagers called Group C by the traditional Bengali name of *Sanyasi Pal* which means all of them, in a group, were unmarried males like monks in human society. The diets as found by direct observation are presented in Table 2.

TABLE 2
PLANTS AND PLANT PARTS OBSERVED BEING EATEN BY
Presbytis entellus

Name of plant	Parts eaten
<i>Artocarpus integrifolia</i>	Ripe jack fruits
<i>Mangifera indica</i>	Ripe mangoes
<i>Ficus religiosa</i>	New green leaves
<i>Ficus bengalensis</i>	New green leaves
<i>Saccharum officinarum</i>	Matured stem of plant
<i>Musa sapientum</i>	Ripe banana
<i>Corchorus olitorius</i>	New green leaves
<i>Bombax</i> sp.	Flower petals
<i>Trewia nudiflora</i>	Fruits

The daily rhythm of activities of Groups A and B appears to be more or less the same (Prater 1965 and Krishnan 1972). Although *P. entellus* is quite at home both in trees and on the ground, our observations are in accordance with Oppenheimer (1973), who found that in Bengal villages they spend more time in trees. Group C was observed at midday for two and half hours on two successive days on 13 and 14 June on a very high tree of *Ficus religiosa* at Natan Gotepara. This group was not found on any other day in the villages covered by our field study, thereby indicating that they probably move to other nearby villages. The movement of individuals of Group A is restricted to the adjoining villages of Nutan Gotepara, Mirzapur and Nakashipara whereas individuals of Group B confine themselves to the village of Gotepara. Thus the home range of Group C appears to be greater than that of Groups A and B.

The abundance of food resources in the large gardens having different types of trees (Table 2) may probably be one of the major reasons why the langur groups studied chose these villages as their permanent settlement over a considerable period of time. The villagers report that with seasonal changes, especially in winter, these animals change their diet by consuming varieties of vegetables cultivated in the villages. During the field observations it was almost confirmed that Group A and Group B limited their foraging to their respective villages. Intragroup encounters were not observed during the short period of field observations.

Besides B.R.'s personal experience mentioned earlier, the older generation of villagers agreed that the *P. entellus* population had gradually decreased in the area.

In the causes for this decrease the following observations appear to be relevant. During the 12 hours observation on an average per day on either Group A or Group B, we noticed that villagers tried to protect their gardens from the foraging langurs. On an average the monkeys are driven away 4 to 5 times in a day from the gardens of villages Nutan Gotepara, Mirzapur and Nakashipara. The same is true in the case of Group B. It was noted that when the monkeys of Group A were disturbed and driven away from a garden in Nutan Gotepara, they moved to another garden in the same village. If similarly threatened they moved to the garden in the adjoining village Mirzapur and when again driven away they move to the gardens of Nakashipara. This kind of harassment of the monkeys of Group A and B prevent them from foraging as noted during our field work. The villagers do not wish to harm the langurs due to their sacred place in Hindu mythology, but are forced to drive them away to protect their valuable garden products such as mango, jackfruit, banana, coconut etc. from which they earn the major part of their livelihood. The monkeys occasionally destroy growing jute plants by eating the green leaves, and naturally the poor farmers desperately try to save their jute plants from the monkeys. It was observed that the monkeys of Group B when similarly threatened move from one garden to another in the same village, Gotepara, which is comparatively larger than Nutan Gotepara, Mirzapur and Nakashipara. As mentioned earlier, Group B, which is smaller in size than Group A, has a single large village as its habitat. The villagers reported to us that *P. entellus* at present sometimes consumes food on moonlit nights. *P. entellus* is diurnal as is suggested by the published literature. Feeding by night is thus a very unusual habit caused probably by the fact that the animals are disturbed so much by villagers when foraging that they are compelled to consume food at night. In all villages the monkeys were seen to eat fruits of Pituli (*Trewia nudiflora*). According to the elders of the villages this fruit has become an item of food in the very recent past.

The villages under study can be traced back to the days of the Apostle Sree Krishna Chaitanya of Nabadwip and therefore the villages near the bank of the old river bed of the Bhagirati are approximately five hundred years old. In the past, the present Nadia district was covered with vast forests. One of the positive evidences for this statement is the 7 sq.km Bethuadahari Reserve Forest, which is merely 5 km away from the villages of our study. It is only after independence and the division of Bengal that the Hindu refugees from East Pakistan (now Bangladesh) settled in this district. Nadia is at present a border district with Bangladesh. Gradually, a substantial portion of the forests of the district has been converted into settlements and cultivated by this migrant population. The population

pressure of the migrants was so acute in the past three or four decades in the villages of our study that many large gardens as (for example 'Roybagh') have totally vanished and have been converted into cultivated land in Gotepara. The gradual deforestation for cultivation and settlement by man in this region has had a severe impact on the survival of the langurs. Threat to the survival of monkeys by direct or indirect interference by man is reported in literature in the Indian context. Sugiyama and Parthasarathy (1978) found a significant decrease in langur population at Dharwar by comparing populations of the years 1961 and 1976. According to them this decrease was in cultivated land (open land) due to increased human impact

on langurs.

Southwick and Siddiqui (1983) suggested that deforestation, increased agricultural development and human population growth were responsible for decline of rhesus populations in Uttar Pradesh.

We conclude that deforestation for cultivation and human settlement in this part of Nadia district, along with direct human interference, has had an adverse impact on the village dwelling langurs, leading probably to decreasing population.

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REFERENCES

- ELLERMAN, J.R. & MORRISON-SCOT, T.C.S. (1951): Checklist of Palearctic and Indian Mammals, 1758 to 1946. British Museum, London.
- KRISHNAN, M. (1972): An ecological survey of the larger mammals of peninsular India. *J. Bombay nat. Hist. Soc.* (Part I), 68: 503-555.
- NAPIER, J. & NAPIER, P.H. (1967): A Handbook of Living Primates. Academic Press, New York.
- OPPENHEIMER, J.R. (1973): Effects of environmental factors on the activity of village-dwelling langurs (Primates) in West Bengal. 68th Ind. Sci. Cong. Assoc. (Chandigarh), Abstracts, pp. 12-13.
- OPPENHEIMER, J.R., AKONDA, A.W. & HUSAIN, K.Z. (1983): Rhesus monkeys: effect of habitat structure, human contact and religious beliefs on population size. In 'Perspectives in Primate Biology' (P.K. Seth, ed.) Today & Tomorrow's Printers and Publishers, New Delhi.
- POCOCK, R.I. (1931): The mammal survey of the Eastern Ghats, reports on the monkeys. *J. Bombay nat. Hist. Soc.*, 35 (1): 51-59.
- SOUTHWICK, C.H. & SIDDIQUI, M.F. (1983): Status and conservation of rhesus monkeys in India. In 'Perspectives in Primate Biology' (P.K. Seth, ed.) Today & Tomorrow's Printers and Publishers, New Delhi.
- PRATER, S.H. (1965): The Book of India Animals. Bombay Natural History Society, Bombay.
- SUGIYAMA, Y. & PARTHASARATHY, M.D. (1978): Population change of the Hanuman langur (*Presbytis entellus*) 1961-1976, in Dharwar area, India. *J. Bombay nat. Hist. Soc.*, 75: 860-867.
- VOGEL, C. (1977): Ecology and Sociology of *Presbytis entellus* In 'Use of non-human Primates in Biomedical Research' (M.R.N. Prasad and T.C.A., ed.). Indian National Science Academy, New Delhi.

2. AN INTERESTING WAY OF A TIGER TREATING ITS WOUND

Injuries a tiger tries to heal can be classified into the following three categories:

- (a) Those which can be licked by the tongue,
- (b) those which cannot be licked but can be reached by front paws, and
- (c) those where neither tongue nor paw can reach.

Application of saliva through the tongue cleans the wounds and keeps away flies. This does not permit the maggots to set in, and the wound gradually dries up. Such wounds are licked many times in a day and each time the duration of continuous licking is quite long. Body parts where the tongue cannot reach are cleaned by licking a front paw several times, and then wiping the wound with the paw. The forehead is the region where this method is applied. Carnivores face real trouble when the injured part is out of reach of tongue or front paw. The shoulder region around the spine is one such place.

A friend of mine with a good knowledge of wildlife

has told me that injured tigers sometimes eat soil. On 13 May 1987, while observing the mating behaviour of a pair of tigers at Kanha National Park, I saw that the male tiger had an injury above its left shoulder just below the vertebral column. This tiger was seen scratching its wound with its rear paw. This seemed to aggravate the wound. For three days male and female were together around the same spot. On the last day the tiger left the tigress and went to a waterhole. I followed, and saw the tiger sitting flush with the ground in a thicket of grass on a *nala* bed. From elephant-back it looked as if he was eating something. The tiger rolled over and got up after some time. A dark coloured paste was visible on his lips. Since the tiger was after a tigress in oestrous, I thought that he might have licked the urine - spray of the tigress from the ground. The tiger then took some more water at a second waterhole, climbed a little bit on open ground, again sat flush with the ground, and started chewing the soil (clayey-loam).